

## INTERNET PAYMENT, AUTHENTICATION AND LOADING SYSTEM USING VIRTUAL SMART CARD

### ABSTRACT OF THE DISCLOSURE

A system loads, authenticates and uses a virtual smart card for payment of goods and/or services purchased on-line over the Internet. An online purchase and load (OPAL) server includes a virtual smart card data base that has a record of information for each smart card that it represents for a user at the behest of an issuer. The server includes a smart card emulator that emulates a smart card by using the card data base and a hardware security module. The emulator interacts with a pseudo card reader module in the server that imitates a physical card reader. The server also includes a client code module that interacts with the pseudo card reader and a remote payment or load server. A pass-through client terminal presents a user interface and passes information between the OPAL server and a merchant server, and between the OPAL server and a bank server. The Internet provides the routing functionality between the client terminal and the various servers. A merchant advertises goods on a web site. A user uses the client terminal to purchase goods and/or services from the remote merchant server. The payment server processes, confirms and replies to the merchant server. The payment server is also used to authenticate the holder of a virtual card who wishes to redeem loyalty points from a merchant. To load value, the client terminal requests a load from a user account at the bank server. The load server processes, confirms and replies to the bank server.